a narcotism as the hydrate, with an absence of other symptoms caused by the hydrate, and which are unfavourable to its action. This was a new truth in regard to chloroform, and might place it favourably by the side of the hydrate for hypodermic use. Lastly, as the hydrate acts by causing a decomposition of the blood—*i.e.*, by undergoing decomposition itself and seizing the natural alkali of the blood, it adds to the blood the formate of sodium. How far this is useful or injurious remains to be discovered. But while putting these views as to practical application at once and fairly forward, Dr. Richardson said it was due to Liebreich to add that his (Liebreich's) theory and his experiments have done fine service in a physiological point of view. They have shown in one decisive instance that a given chemical substance is decomposed in the living body by virtue of pure chemical change, and that the symptoms produced are caused by one of the products of that decomposition. The knowledge thus definitely obtained admits of being applied over and over again in the course of therapeutical inquiry."—*Med. Times and Gaz.*, Sept. 4, 1869.

6. *Experimental Study of the Physiological Effects of Conicine.*—In a very long essay on this subject, giving the results of a large number of experiments, M. Casaubon states that the active principle of conium is a liquid alkaloid termed conicine, which is chiefly contained in the seeds. Its action is that of a poison paralyzing the nervo-motor system. It effects a certain alteration in the blood, which, circulating through the body, produces different results according to the quantity absorbed. It either increases or produces no alteration on the proper muscular irritability, and it diminishes, if it does not altogether abolish, the motor force transmitted by the motor nerves. In small doses conicine disturbs the function of the various organs, but when taken in poisonous doses, it suspends them after having modified the gases of the blood. When slowly consumed it alters the tissues. Locally applied conicine produces anæsthesia of the peripheric extremities of the sensory nerves. In poisonous doses it first produces peripheric hyperæsthesia by exalting the excitability of the spinal cord, and ends by suspending the functions of the sensory nerves. The exaltation of the functions of the spinal cord, which is only transitory, is a consequence in the first place of its diminishing the supply of blood to the organ, and subsequently of its reducing the amount of oxygen conveyed by the blood. Conicine, moreover, produces sighing and sleepiness, which are referable to the causes just mentioned, but in particular to the direct action of the poison on the medulla oblongata. In regard to the extremities of the ganglionic nerves, distributed to the contractile fasciculi of the vessels, and the smooth organic fibres, conicine produces first an exalted action in them, owing to excess of carbonic acid in the blood, and secondly a diminution of action, owing to the want of oxygen in the blood.

In small doses, therefore, it produces contraction of the smaller arterial branches, but has no marked effect on the pulse in the radial artery; in poisonous doses it produces relaxation of the vascular walls, the pulse becoming soft and compressible. In small doses conicine augments the vigour of the cardiac contractions, and perhaps retards them; but when poisonous doses are taken, after primarily augmenting their force, it accelerates them, and finally renders them intermittent, irregular, and slow. In accordance with this action on the circulation the temperature of the body is first augmented and then depressed. Conicine modifies the gases of the blood by volatilizing in them, as a result of which oxygen is not absorbed as before, whilst carbonic acid accumulates. Applied locally in small quantities, conicine diminishes the secretions of the eye, but has no effect upon the pupil; in larger doses, however, it appears to dilate the pupil and to diminish, after having previously augmented temporarily, the secretions of the eye. Besides other effects, it diminishes the accommodative power of the eye. In poisonous doses conicine augments the salivary secretion, and in the first period produces a similar effect on the renal secretion. Its action on the kidneys and liver, however, requires further investigation. It is to be noticed that the activity of the plant is very much dependent on the climate of the place where it is grown, so that whilst English grown conium is so feeble that it has scarcely any action, and that grown in the Crimea possesses so little activity that the peasants eat it, it is so active in the Isle of Ceos that in view of its immediate and rapid action, all who have attained the age of sixty are poisoned with it in order that food may be left for the remainder of the population. About 4 milligrammes (or .15 grain) of conicine are sufficient to kill a frog, and according to Orfila 10 or 12 drops prove fatal to a large dog.—*Practitioner*, Sept. 1869.

7. *Action of the Various Opium Alkaloids on the System.*—M. WALDEMAR BAXT, of St. Petersburg, has made elaborate researches on this subject, and comes from them to the following conclusions: 1. The whole group of opium alkaloids taken together constitute a series of agents with two specially characteristic actions—*narcotic* and *tetanically convulsive*. 2. Each individual alkaloid possesses one or the other of these characteristic effects exclusively, or else a blending of the two opposed actions, in consequence of which the one or the other becomes prominent, while the other is more feebly pronounced. 3. The first place as a pure *narcotic* must be given to papaverine. It is followed by morphia, narceia, codeia, etc., with constant diminution of the narcotic character of the influence, and continually increasing convulsive tendencies, which, in thebain, reach the level of complete tetanus, indistinguishable from that produced by strychnia, except by the size of the dose required. 4. Thebain holds the highest place as a convulsive, and following it in diminishing order come porphyroxin, narcotine, codeia, etc., with gradual loss of convulsive and gain of narcotic power. 5. Thebain is quite similar in its action to strychnia; and as larger doses are required, it may be that we shall come to employ it in the cases where strychnia is now used, on account of its less dangerous qualities. 6. Papaverine, while producing the same effects as morphia, has the preference over the latter in cases where the latter cannot be used on account of its unpleasant after-results, none of which can follow papaverine. 7. Papaverine and morphia, acting quite oppositely to strychnia and thebain, may be employed with advantage in cases of poisoning with the latter substances. 8. Papaverine and morphia act first on the peripheral ends of the sensory nerves; they can therefore be employed as local anæsthetics in neuralgia, and in various neuralgias without central lesion. 9. The muscles and the motor nerves suffer no change in function from the action, either of papaverine or morphia. 10. Papaverine and morphia especially diminish reflex excitability, for they first affect the peripheral ends of the sensory nerves, and partly, also, perhaps the sensitive fibres in their course, and probably also the central brain elements. 11. Autochthonous reflex inhibition centres are not affected recognizably by either papaverine or morphia.—*Practitioner*, Sept. 1869, from *Archiv f. Anat. u. Physiol. Reichert u. Dubois-Reymond*, No. 2, 1869.

8. *Therapeutic Value of the Cinchona Alkaloids.—The Indian Annals of Medical Science* (No. xxv., Jan. 1869) contains a long report on this subject by Dr. JOS. EWART. The therapeutical value of the sulphates of Quinidina, Cinchonidina and Cinchonia was tested by Dr. E. during the highly malarious month of Oct. 1866, on the fever cases admitted into the Medical College Hospital. The mode of using the alkaloids was, whenever practicable, to give a twenty-grain dose in the sweating stage of intermittent fever, and to follow this up by five or ten-grain doses every four hours during the intermission; or, when the paroxysm was successfully averted, three times a day. And these or smaller doses, if deemed judicious, were had recourse to daily, in the manner prescribed, until the tendency to recurrence of the paroxysms appeared to have been completely broken. In *remittent fever*, the twenty-grain dose was not exhibited unless the remission was *very* well pronounced. But from three to ten-grain doses were given, three or four times a day, throughout the case, regardless of the exacerbation, in conformity to my plan of giving quinia in analogous cases. As with quinia, so with quinidina, cinchonidina and cinchonia, the object here is, gradually to saturate the system with the antiperiodic, so that when a well-defined remission does occur, a sufficient quantity may have been absorbed to moderate or prevent a repetition of the febrile exacerbations.